

11. PSIC Requirements

11.1 Describe how public safety agencies plan, coordinate, acquire, deploy and train on interoperable communications equipment, software and systems

- 1) Utilize reallocated public safety – the public safety spectrum in the 700 MHz frequency band
- 2) Enable interoperability with communication systems that can utilize reallocated public safety spectrum for communications
- 3) Otherwise improve or advance the interoperability of public safety communications system that utilize other public safety spectrum bands

Montana will utilize the established Interoperability Montana Project Directors (IMPD) board as the central body that is responsible for planning, coordinating and implementing interoperable communications initiatives regarding software, equipment and systems. The IMPD provides guidance and oversight for local, tribal and state interoperable initiatives.

These established mechanisms, which include governance, technical evaluation and project management, fit well with the PSIC requirements for implementing interoperable projects.

Montana's Statewide Communications Interoperability Plan (SCIP) builds on the state's strong interoperability communications structure and elements. This existing foundation provides Montana with a distinct advantage in being able to address these three key elements of the PSIC grant guidance:

- Frequency (Spectrum Efficiency)
- Future Use of the 700 MHz Band
- Interoperability with other bands

Spectrum Efficiency: The majority of Montana's emergency responders utilize the Very High Frequency (VHF) band. For years, Montana has utilized an efficient and functional mutual aid frequency system, that operates in the simplex mode. It is a model for other states and regions. The Interoperability Montana Project (IM), through the PSIC grant, is expanding the capabilities of a connected and comprehensive voice and data system that will supplement the current VHF capabilities of local and state responders and implement interoperable tools not presently available. The Interoperability Montana trunked/conventional system will be built upon the connected sites funded by the PSIC award, which will greatly improve voice and data interoperability.

700 MHz Utilization: Montana's approach is not to use 700 MHz as a primary choice for voice communications. The focus of the PSIC grant is to improve communications site reliability and provide digital connectivity to allow expansion of voice and data systems. It is the intent of the Interoperability Montana Project to use this foundation to expand mobile data capabilities through the 700 MHz spectrum, utilizing the PSIC-funded system to connect sites. The PSIC grant will also allow access to critical areas where future 700 MHz interoperability channels will be utilized to interface with the Idaho 700 MHz system now under deployment. Connectivity between northern and southern Idaho is not possible because of geographic barriers and large stretches of National Forest land. Montana has an Idaho



access point at its Sawtell communications site, and plans are to build another one at Look Out pass on the western border.

Multi-band Interoperability: Regardless of the band used by emergency response personnel, a connected digital ring, utilized in conjunction with Montana's deployment of a VHF trunking system, will allow repeaters from other bands to be placed at sites and, as necessary, patched into other systems.

11.2 Describe how strategic technology reserve (STR) will be established and implemented to pre-position or secure interoperable communications in advance for immediate deployment in an emergency or major disaster

The strategy for utilizing the PSIC required Strategic Technology Reserve (STR) is simple: maximize tools that enhance the system being deployed, make them dependable, and utilize these tools on a regular basis.

The IM Project is being designed and implemented with a number of backup systems and fail-safe mechanisms and redundant backup modes which will allow quick recovery during catastrophic events. For example, the communications sites being developed all have reliable power, meet R56 grounding specifications, are properly engineered, and have emergency power provided via generators and/or battery systems. In addition, each communications site has numerous security and operational alarms. The microwave system is designed and employed with a hot-standby configuration and is configured in a space diversity or loop configuration. This ensures that if a problem is encountered, information and operations can be rerouted, resulting in the restoration of communications in the shortest time possible. A total site failure will result in a notification alarm to a monitored station.

The voice radio system designed by Motorola Corporation also has several fail-safe modes. If regional trunking capabilities are lost due to microwave system failure, the site reverts to a 'site trunking' mode. If this mode is lost, each of the repeaters returns to a conventional mode. This design limits the extent of communications failures.

Additionally, local and State of Montana agencies, such as the Montana Department of Natural Resources (DNRC), have previously purchased mobile conventional repeater systems for use in fires and other emergencies. The IM Project is currently working on negotiations for emergency helicopter and snowcat services with the Montana DNRC, Fish, Wildlife and Parks and National Guard.

Montana has submitted a formal request to seek a partial waiver from the STR requirements because the IMPD believes that it is in the best interest of the IM Project, the State of Montana and first responder needs if part of the STR money is directed to non-STR equipment, which represents a higher priority need. This equipment consists of multiple caches of spare boards, routers, repeaters, and maintenance parts for key radio and microwave sites to restore connectivity in the event of a major disaster. The IMPD voted on November 6, 2007 to approve use of STR monies for this purpose and directed the State of Montana to seek this exemption.

The readiness of Montana's communications sites can be improved by purchasing two Emergency Spare Kits for the Master Controllers, acquiring three regional radio Rapid Response Maintenance Packs and three microwave site Rapid Response Maintenance Packs.



This investment will better serve the needs of first responders. This investment will assist the state in re-establishing communications if existing critical infrastructure is damaged or destroyed in an emergency or major disaster.

The total STR allocation to the State of Montana is \$507,263. It has been proposed that \$375,000 of the allocation be waived in order to purchase the following equipment:

\$150,000 Master Controller Emergency Spare Kits (2 @ \$75K)

\$150,000 Regional Radio Site Rapid Response Maintenance Packs (3 @ \$50K)

\$ 75,000 Regional Microwave Rapid Response Maintenance Packs (3 @ \$25K)

Montana's balance of STR funds will be used to develop three emergency 'site' units. Should a critical site be lost due to catastrophic disaster, a unit would be deployed to provide temporary connectivity and radio communications that can be plugged into the Interoperability Montana System. The unit will include a portable emergency generator, a portable tower and a mobile repeater.

The budget to purchase emergency response equipment is as follows:

\$ 75,000 Mobile Emergency Power Generation Units (3 Total)

\$ 25,000 Mobile VHF Repeater Unit

\$ 32,263 Mobile Tower Units(s)

11.3 Describe how local and tribal government entities' interoperable communications needs have been included in the planning process and how their needs are being addressed

One important requirement of the PSIC grant is assessing and meeting local and tribal needs in the planning process. This process is critical for the successful progression interoperability in Montana.

Montana's approach to interoperable planning through the Interoperability Montana Project ensures local and tribal participation in the SCIP and other planning elements. Each county and Indian Nation in Montana is a member of a regional consortium. Each consortium has a director who is designated as a voting member of the Interoperability Montana Project Directors (IMPD) board. Local and tribal needs are communicated via a local level to the consortium, with leaders bringing concerns to the IMPD and/or its standing committees. Funding through PSIC and other programs is voted on and funds will be distributed through the IMPD for local and regional projects that are all tied to enhancing the Interoperability Montana Project.

